

Abstract

Air fractionation process and installation with mixing column and krypton-xenon recovery

A process and apparatus for low-temperature fractionation of air in a distillation column system for nitrogen-oxygen separation (5, 6) introduces into first feed air stream (4) into a distillation column system for nitrogen-oxygen separation. An oxygen-rich fraction (22) from the distillation column system for nitrogen-oxygen separation is pressurized (23) in liquid form and is added (25) to a mixing column (26). A heat transfer medium stream is introduced into the lower region of the mixing column (26) and is brought into countercurrent contact with the oxygen-rich fraction (22, 25). Gaseous top product (260) from the upper region of the mixing column (26) is introduced into an additional column (27). A liquid (38, 39, 40, 41) from the lower or middle region of the mixing column is introduced into the distillation column system. A krypton- and xenon-containing oxygen stream (44, 46, 47, 48) from the distillation column system is introduced into a krypton-xenon enriching column (36) from which a krypton- and xenon-enriched fraction (51) is obtained. A krypton- and xenon-depleted top fraction (28) is obtained from the upper region of the additional column (27).